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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/672,225	09/26/2003	Ivan Alferiev	RCHP-125US1	2873
23122	7590	12/08/2006	EXAMINER	
RATNERPRESTIA			VENC1, DAVID J	
P O BOX 980			ART UNIT	PAPER NUMBER
VALLEY FORGE, PA 19482-0980			1641	

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/672,225

Applicant(s)

ALFERIEV ET AL.

Examiner

David J. Venci

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on November 2, 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 4, 8-11, 15, 17-19, 21 and 23-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-7, 12-14, 16, 20 and 22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-30 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on September 26, 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 04/22/04; 06/07/04; 01/03/05; 11/04/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Election/Restrictions

Examiner acknowledges Applicants' election of Invention I, claims 1-22, without traverse, in the reply filed on November 2, 2005. In addition, Examiner acknowledges Applicants' species elections of 1(b), 2(b), 3(b), 4(b) and 5(f), and thiol-containing fluorophore of claim 7.

Claims 23-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Claims 4, 8-11, 15, 17-19 and 21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected species, there being no allowable generic or linking claim.

Currently, claims 1-3, 5-7, 12-14, 16, 20 and 22 are under examination.

Information Disclosure Statement

The information disclosure statement filed April 22, 2004, fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each non-patent literature publication or that portion which caused it to be listed. The information disclosure statement has been placed in the application file, but the non-patent literature publications referred to therein have not been considered.

Drawings

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Figure 1 is objected to under 37 CFR 1.83(a) because Figure 1 fails to show "thiol-reactive dithio groups of product 3" as described in the specification, e.g., p. 9, line 7, or "thiol groups of product 3" as described in the specification, e.g., p. 10, lines 12-13. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 5-7, 12-14, 16, 20 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1-2, the recitation of the term "adapted" is indefinite. The object(s) and/or step(s), if any, required for adaption is/are not clear.

In claims 1-2, the recitation of the infinitive "to form" is indefinite. Whether the act or process of "forming" is completed or performed, or merely intended, is not clear.

In claims 1-2, the recitation of the infinitive "to liberate" is indefinite. Whether the act or process of "liberating" is completed or performed, or merely intended, is not clear. The term "liberate" is further indefinite because the standard or basis for ascertaining liberation is not clear. The distinguishing characteristic(s) defining a state of "liberated" versus "not liberated" is/are not clear.

In claims 1-2, the recitation of the infinitive "to determine" is indefinite. Whether the act or process of "determining" is completed or performed, or merely intended, is not clear.

In claim 2, the recitation of "the cleavable" bond lacks antecedent basis.

In claim 2, the recitation of "...is a disulfide bond or an aromatic azo group" is indefinite. The object(s) of "...is a disulfide bond or an aromatic azo group" is/are not clear.

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In claim 5, the recitation of "FI-SH" is indefinite. The orientation of "-SH" with respect to fluorescent L-cysteine, BODIPY-L-cysteine, and fluorescein is not clear.

In claim 12, the passive voice recitation "is bound" is indefinite. The identity of object(s) and/or step(s), if any, required for performing "binding" is/are not clear.

In claim 12, the passive voice recitation "is reacted" is indefinite. The identity of object(s) and/or step(s), if any, required for performing "reacting" is/are not clear.

In claim 12, the recitation of the infinitive "to form" is indefinite. Whether the act or process of "forming" is completed or performed, or merely intended, is not clear.

In claim 12, the recitation of the relative term "predominantly" is indefinite. Neither claim 12 nor the specification provide definition for the term "predominantly", or a standard for ascertaining the requisite degree of "predominantly", such that persons of ordinary skill in the art are not reasonably apprised of the scope of the invention.

Claims 1-2 are further rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted step(s) is/are the step(s) required for "determining a binding capacity of a surface" as recited in the preamble. In claims 1-2, the claim preambles do not appear to correspond to the method outcomes. For example, the preambles of claims 1-2 recite methods for "determining a binding capacity of a surface". However, the final method step in both claims 1-2 recite "detecting a detectable signal". How merely "detecting a detectable signal" amounts to "determining a binding capacity of a surface" is not clear.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-7, 12-14, 16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Pope & Knigge (US 5,399,501).

Pope & Knigge describe a method of determining a binding capacity (see Abstract, last sentence, "diagnostic binding assays") of a surface (see Title, "solid phase"), the method comprising: providing a surface (see e.g., col. 6, line 41, "alumina") containing a reactive moiety (see Fig. 4, product of first reaction), providing a fluorophore comprising a fluorescent moiety (see col. 7, line 50, "N,N'-didansyl-L-cystine"), reacting the fluorophore with the reactive moiety to form a linking bond between the fluorophore and the reactive moiety (see Abstract, "[t]he solid phase is reacted with a heterobifunctional or homobifunctional coupling agent to form a complex"), cleaving a cleavable bond (see e.g., Figs. 5 and 6, "REDUCTANT" reaction), and detecting the detectable signal (see col. 2, lines 18-19, "detection or measurement of the label associated with the solid phase").

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pope & Knigge (US 5,399,501) in view of Burns *et al.*, 56 J. ORG. CHEM. 2648 (1991).

Pope & Knigge describe a method of determining a binding capacity of a surface as substantially described, *supra*, and incorporated herein.

Pope & Knigge do not describe a tris(2-carboxyethyl)phosphine (hereinafter "TCEP") reducing agent.

However, Burns *et al.* describe the general use of TCEP for selective reduction of disulfides (see Title). Therefore, it would have been obvious for a person of ordinary skill in the art to modify the method of Pope & Knigge by using TCEP because Burns *et al.* discovered that TCEP reduces disulfides "rapidly and completely" at acidic pH (see Abstract), said acidic pH being necessary to prevent thiolate-disulfide interchange (see p. 2649, col. 1, last paragraph).

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Conclusion


No claims are allowed at this time.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Venci whose telephone number is 571-272-2879. The examiner can normally be reached on 08:00 - 16:30 (EST). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

David J Venci
Examiner
Art Unit 1641

djv


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6/27/06